

Claim Listing:

1. (Previously Presented) An implantable endoluminal graft, comprising:
 - (a) a microporous metal thin film covering having a pattern of microporous openings passing therethrough;
 - (b) a metal structural support element having at least one affixation member, a pattern of openings passing through the metal structural support element and underlying the microporous metal thin film covering comprised of a metallic material; and
 - (c) wherein the metal structural support element is attached to the microporous metal thin film covering only at the at least one affixation member.
2. (Previously Presented) The implantable endoluminal graft of claim 1, wherein the affixation member is positioned near either a proximal end or distal end of the microporous metal thin film covering and a corresponding end of the metal structural support element.
3. (Previously Presented) The implantable endoluminal graft of claim 1, wherein the affixation member is near a distal end of the microporous metal thin film covering and metal structural support element.
4. (Previously Presented) The implantable endoluminal graft according to claim 1, wherein the at least one affixation member is positioned near a terminal end of the metal structural support element.
5. (Previously Presented) The implantable endoluminal graft of claim 4, wherein the microporous metal thin film covering is attached to the at least one affixation member.
6. (Previously Presented) The implantable endoluminal graft of claim 1, wherein the cylindrical elements metal structural support element has have a sinusoidal pattern with alternating peaks and valleys.
7. (Cancelled)

8. (Previously Presented) The implantable endoluminal graft according to claim 4, wherein the metal structural support element further comprises a plurality of cylindrical elements and interconnecting elements, the cylindrical elements adopting a sinusoidal pattern with alternating peaks and valleys and the at least one affixation member extends longitudinally from at least one of a peak or a valley at a terminal end of the metal structural support element.
9. (Previously Presented) The implantable endoluminal graft of claim 8, wherein the microporous metal thin film covering exhibits a uniform pattern of openings throughout the surface of the microporous metal thin film covering.
10. (Previously Presented) The implantable endoluminal graft of claim 9, wherein the microporous metal thin film covering and the metal structural support element are fabricated from nitinol.
11. (Previously Presented) The implantable endoluminal graft of claim 10, wherein the microporous metal thin film covering maintains a martensite crystalline structure throughout a temperature transition from room temperature to body temperature and behaves martensitically *in vivo*.
12. (Previously Presented) The implantable endoluminal graft of claim 10, wherein the metal structural support element undergoes a martensite to austenite phase transition, during a temperature transition from room temperature to body temperature and behaves austenitically *in vivo*.
13. (Withdrawn) The implantable endoluminal graft of claim 10, further comprising a microporous metal thin film covering that maintains an austenite crystalline structure throughout a temperature transition from room temperature to body temperature and behaves austenitically *in vivo*.

14. (Withdrawn) The implantable endoluminal graft of claim 10, further comprising a microporous metal thin film covering that undergoes a phase transition, from martensite to austenite crystal structure, during a temperature transition from room temperature to body temperature and behaves austenitically *in vivo*.

15. (Previously Presented) The implantable endoluminal graft of claim 1, wherein the at least one affixation member comprises a projection projecting proximally or distally from a cylindrical element at a terminal end of the structural support member.

16. (Cancelled)

17. (Cancelled)

18. (Previously Amended) An implantable endoluminal graft, comprising:

- (a) a microporous metal thin film covering comprised of a shape memory alloy having an austenite phase transition start temperature greater than 37°C and the microporous metal thin film covering having a pattern of microporous openings passing therethrough; and
- (b) a structural support element underlying the microporous covering comprised of at least a pair of cylindrical elements and interconnecting members joining adjacent cylindrical elements, the structural support element further comprised of a shape memory alloy having an austenite phase transition start temperature less than 0°C;
- (c) the structural support element being attached to the microporous metal thin film covering at least one point of attachment including an at least one affixation member between the microporous metal thin film covering and the structural support element.

19. (Previously Presented) The implantable endoluminal graft of claim 18, wherein the shape memory alloy is nitinol.

20. (Previously Presented) The implantable endoluminal graft of claim 18, wherein the microporous metal thin film covering maintains a martensite crystalline structure throughout the temperature transition from room temperature to body temperature.
21. (Previously Presented) The implantable endoluminal graft of claim 18, further comprising a structural support member that undergoes a phase transition, from martensite to austenite crystal structure, during the temperature transition from room temperature to body temperature.
22. (Previously Amended) The implantable endoluminal graft of claim 18, wherein the at least one affixation member is located at either near a proximal end or distal end of the microporous metal thin film covering and corresponding end of the structural support element.
23. (Previously Amended) The implantable endoluminal graft of claim 18, wherein the at least one affixation member is located at near a distal end of the microporous metal thin film covering and structural support element.
24. (Previously Presented) The implantable endoluminal graft of claim 18, wherein the cylindrical elements adopt a sinusoidal pattern with alternating peaks and valleys.
25. (Cancelled)
26. (Previously Amended) The implantable endoluminal graft of claim 18, wherein the pattern of microporous openings exhibits a uniform pattern of openings throughout the surface of the microporous metal thin film covering.
27. (Previously Amended) The implantable endoluminal graft of claim 18, wherein the at least one affixation member is on a terminal end of a terminal interconnecting member.
28. (Cancelled)

29. (Previously Presented) An implantable endoluminal graft, comprising:

- a. a microporous metal thin film covering comprised of nitinol; and
- b. a structural support element underlying the microporous covering comprised of at least a pair of undulating cylindrical elements having a plurality of peaks and valleys and interconnecting members joining adjacent cylindrical elements at either the peaks or the valleys and having at least one projection extending longitudinally from a terminal cylindrical element, the structural support element being comprised of nitinol,
- c. the structural support element being joined to the microporous metal thin film covering at the at least one projection.

30. (Previously Presented) The implantable endoluminal graft of claim 29, wherein the microporous metal thin film covering maintains a martensite crystalline structure throughout the temperature transition from room temperature to body temperature.

31. (Previously Presented) The implantable endoluminal graft of claim 29, wherein the structural support member that undergoes a phase transition, from martensite to austenite crystal structure, during the temperature transition from room temperature to body temperature.

32. (Withdrawn) The implantable endoluminal graft of claim 29, further comprising a microporous metal thin film covering that maintains an austenite crystalline structure throughout a temperature transition from room temperature to body temperature and behaves austenitically *in vivo*.

33. (Withdrawn) The implantable endoluminal graft of claim 29, further comprising a microporous metal thin film covering that undergoes a phase transition, from martensite to austenite crystal structure, during a temperature transition from room temperature to body temperature and behaves austenitically *in vivo*.

34. (Previously Presented) The implantable endoluminal graft of claim 29, wherein the microporous metal thin film covering exhibits a regular pattern of openings throughout a surface of the microporous metal thin film covering.

35. (Previously Presented) The implantable endoluminal graft of Claim 34, wherein the regular pattern of openings further comprises a plurality of elongate slots arrayed in circumferentially adjacent and longitudinally offset rows, each of the plurality of elongate slots being parallel to a longitudinal axis of the endoluminal graft and capable of opening under the influence of a circumferentially expansive force.